

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-25 (Canceled).

Claim 26 (Currently Amended): A method for aiding product life cycle planning, comprising:

setting a threshold value concerning reuse of parts with respect to cost and environment;

reading cost of parts and environment load information from a database;

displaying parts on a map displayed on a display device and divided into a plurality of domains based on the threshold;

selecting reuse candidate parts from the displayed parts with reference to the displayed map;

calculating a useful life based condition formula expressed as follows:

$$\min \{la^{i'}, lr^{i'}\} \leq la^j - \min \{la^i, lr^i\}$$

where $la^{i'}$ is a useful life time of product i' , $lr^{i'}$ is a worth life time of product i' , la^j is a useful life time of part j , and lr^j is a worth life time of part j ,

determining whether the useful life based condition formula is satisfied;

determining possibility of reuse with respect to the reuse candidate parts when the useful life based condition formula is satisfied;

calculating a worth life time based condition formula expressed as follows:

$$tL^{i'} + tP^{i'} + \min \{la^{i'}, lr^{i'}\} \leq lr^j$$

where $tL^{i'}$ is a time lag of product i' , and $tP^{i'}$ is a production period of product i' , $la^{i'}$ is a useful life time of product i' , $lr^{i'}$ is a worth life time of product i' , and lr^j is a worth life time of part j ,

determining whether the worth life time based condition formula is satisfied; and
determining possibility of reuse with respect to the reuse candidate parts when the
worth life time based condition formula is satisfied;

calculating a recovery quantity based condition formula expressed as follows:

$$\min \{l\tilde{a}^{i'}, l\tilde{r}^{i'}\} < tL^{i'} + \alpha tP^{i'}$$

where $0 \leq \alpha \leq 1$, $l\tilde{a}^{i'}$ is a useful life time of product i' , $l\tilde{r}^{i'}$ is a worth life time of
product i' , $tL^{i'}$ is a time lag of product i' , and $tP^{i'}$ is a production period of product i'

determining whether the recovery quantity based condition formula is satisfied;

[[and]]

determining on a computer possibility of reuse with respect to the reuse candidate
parts when the recovery quantity based condition formula is satisfied; and

displaying the determination of possibility of reuse with respect to reuse of candidate
parts.

Claim 27 (Previously Presented): The method according to claim 26, wherein the
map is divided into four domains: a domain where reuse should be actively examined, a
domain where reuse should be fairly actively examined, a domain which fails to be suitable
for reuse and a domain where reuse is examined.

Claims 28-29 (Canceled).

Claim 30 (Previously Presented): An apparatus of aiding product life cycle planning,
comprising:

an input device configured to set a threshold value concerning reuse of parts with
respect to cost and environment;

a reading device configured to read cost of parts and environment load information from a database;

a display device configured to display parts on a map divided into a plurality of domains based on the threshold;

a selecting device configured to select reuse candidate parts from the displayed parts with reference to the displayed map;

a computing device configured to calculate a useful life based condition formula expressed as follows:

$$\min \{la^{~i}, lr^{~i}\} \leq la^{~j} - \min \{la^{~i}, lr^{~i}\}$$

where $la^{~i}$ is a useful life time of product i , $lr^{~i}$ is a worth life time of product i , $la^{~j}$ is a useful life time of part j , and $lr^{~j}$ is a worth life time of part j ,

a first determining unit configured to determine whether the useful life based condition formula is satisfied;

a second determining unit configured to determine possibility of reuse with respect to the reuse candidate parts when the useful life based condition formula is satisfied;

the computing device calculates a worth life time based condition formula expressed as follows:

$$tL^{~i} + tP^{~i} + \min \{la^{~i}, lr^{~i}\} \leq lr^{~j}$$

where $tL^{~i}$ is a time lag of product i , and $tP^{~i}$ is a production period of product i , $la^{~i}$ is a useful life time of product i , $lr^{~i}$ is a worth life time of product i , and $lr^{~j}$ is a worth life time of part j ,

the first determining unit determines whether the worth life time based condition formula is satisfied; and

the second determining unit determines possibility of reuse with respect to the reuse candidate parts when the worth life time based condition formula is satisfied;

the computing unit calculates a recovery quantity based condition formula expressed as follows:

$$\min \{l\tilde{a}^{i'}, l\tilde{r}^{i'}\} < tL^{i'} + \alpha tP^{i'}$$

where $0 \leq \alpha \leq 1$, $l\tilde{a}^{i'}$ is a useful life time of product i' , $l\tilde{r}^{i'}$ is a worth life time of product i' , $tL^{i'}$ is a time lag of product i' , and $tP^{i'}$ is a production period of product i' ;

the first determining unit determines whether the worth life time based condition formula is satisfied; and

the second determining unit determines possibility of reuse with respect to the reuse candidate parts when the recovery quantity based condition formula is satisfied.

Claim 31 (Previously Presented): The apparatus according to claim 30, wherein the map is divided into four domains: a domain, where reuse should be actively examined, a domain where reuse should be fairly actively examined, a domain which fails to be suitable for reuse and a domain where reuse is examined.

Claims 32 and 33 (Canceled).

Claim 34 (Previously Presented): A computer readable recording medium containing a computer program to aide product life cycle planning, the program comprising instructions to:

set a threshold value concerning reuse of parts with respect to cost and environment;
read cost of parts and environment load information from a database;
display parts on a map divided into a plurality of domains based on the threshold;
receive a selection of reuse candidate parts from the displayed parts with reference to the displayed map;

calculate a useful life based condition formula expressed as follows:

$$\min \{la^{i'}, lr^{i'}\} \leq la^{j'} - \min \{la^{i'}, lr^{i'}\}$$

where $la^{i'}$ is a useful life time of product i' , $lr^{i'}$ is a worth life time of product i' , $la^{j'}$ is a useful life time of part j , and $lr^{j'}$ is a worth life time of part j ,

determine whether the useful life based condition formula is satisfied; and

determine possibility of reuse with respect to the reuse candidate parts when the useful life based condition formula is satisfied;

calculate a worth life time based condition formula expressed as follows:

$$tL^{i'} + tP^{i'} + \min \{la^{i'}, lr^{i'}\} \leq lr^{j'}$$

where $tL^{i'}$ is a time lag of product i' , and $tP^{i'}$ is a production period of product i' , $la^{i'}$ is a useful life time of product i' , $lr^{i'}$ is a worth life time of product i' , and $lr^{j'}$ is a worth life time of part j ,

determine whether the useful life based condition formula is satisfied;

determine possibility of reuse with respect to the reuse candidate parts when the useful life based condition formula is satisfied;

calculate a recovery quantity based condition formula expressed as follows:

$$\min \{la^{i'}, lr^{i'}\} < tL^{i'} + \alpha tP^{i'}$$

where $0 \leq \alpha \leq 1$, $la^{i'}$ is a useful life time of product i' , $lr^{i'}$ is a worth life time of product i' , $tL^{i'}$ is a time lag of product i' , and $tP^{i'}$ is a production period of product i' ;

determine whether the worth life time based condition formulation is satisfied; and

determine possibility of reuse with respect to the reuse candidate parts when the recovery quantity based condition formula is satisfied.

Claim 35 (Previously Presented): The program according to Claim 34, wherein the map is divided into four domains: a domain where reuse should be actively examined, a

Application No. 09/818,612
Reply to Office Action of July 26, 2006

domain where reuse should be fairly actively examined, a domain which fails to be suitable for reuse and a domain where reuse is examined.

Claims 36 and 37 (Canceled).